I. Project Title: INTERAGENCY STANDARDIZED MONITORING PROGRAM — Population Estimate of Humpback Chub in Black Rocks.

II. Principal Investigator(s):

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III. Project Summary:

The Interagency Standardized Monitoring Program (ISMP) was developed in 1986 to monitor population trends of Colorado pikeminnow and humpback chub in the Colorado River Basin. The original ISMP was composed of three parts: 1) spring electrofishing for subadult and adult Colorado pikeminnow in parts of the Green, Colorado, White and Yampa rivers (about 20 -30% of occupied habitat within each of the rivers); 2) autumn backwater seining for YOY Colorado pikeminnow in the Colorado and Green rivers; and 3) sampling for adult humpback chubs with trammel nets in Black Rocks and Westwater Canyon. These sampling programs relied on changes in catch per effort (CPE) to monitor changes in population size and structure. A summary report describing the results of the first seven years (1986–1992) of ISMP was produced and finalized by the Recovery Program in 1994. Annual reports have been produced every year since 1994.

ISMP was expanded in 1998 to include razorback sucker in the Green River subbasin (operated independently for several years) and mark-recapture population estimates of the major Colorado pikeminnow and humpback chub populations. Estimating population size is intended to supplement the CPE data.

This report summarizes work done to estimate the population size of humpback chub in Black Rocks, Colorado.

IV. Study Schedule: 1998 – 2001.

V. Relationship to RIPRAP: General Recovery Program Support Action Plan, V.A.1. Conduct Standardized Monitoring Program.

VI. Accomplishment of FY 00 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

Tasks

1. Conduct at least three, but no more than four, sampling trips at Black Rocks in late summer and/or late fall.

   Field Methods -- Black Rocks was sampled for three 4-day periods that were separated by 1 week intervals: 8/28 – 31, 9/11 - 9/15, 9/25 – 9/28. Sampling was done with 1-in-mesh trammel nets set from early morning through early evening. Sampling began early and ended late to include the morning and evening crepuscular periods. Sampling was usually discontinued during the middle of the day. Sampling began again at about 1600 hr and continued until about 2200 hr, when they were pulled for the night. Nets were set along eddy lines and rock faces where experience has shown that humpback chubs could readily be captured. Sampling sites were limited by high water velocities in the main channel and by violent eddies along portions of the shoreline.

   Six to eight trammel nets were set at one time and each net was checked at regular intervals of 1 - 1.5 hr to reduce stress on the captured chubs. Nets were left in one place for a morning or evening sampling period, but were usually moved at least once during the day. Nets that became tangled or that did not catch many chubs were moved more frequently. The entire 1-mi length of Black Rocks was sampled during each 4-day sample period to ensure that all chubs within Black Rocks had an equal chance of being collected. However, nets were concentrated in one 0.25 - 0.5-mi-long section for a morning or evening sampling period.

   Net location, time sampled and total fish caught were recorded each time a net was checked. All chubs were held and transported back to a central location for processing. All other fish were identified, counted and released at the sample site. After all nets were checked, the chubs were identified as humpback chub or roundtail chub, measured for total and standard length (mm), weighed (g), and checked for the presence of a PIT tag. All fish that did not have a PIT tag were given one before release. We did not attempt to sex the chubs. All chubs were released at the central location to avoid the possibility of immediate recapture in the trammel net still set at their original capture site. We could not keep track of specific capture sites for each chub.

   Results. -- Fewer chubs were collected in 2000 than in previous years. The following table summarizes the total number of humpback chub collected in each of the years.

Rotation	Total Caught	Number Later Recaptured			
	Total/ Num Recap / % Recap	Once	Twice	Three Times	At Least Once
9801	48	9	7	1	17 / 35%
9802	65 / 6 / 9%	8	2	1	11 / 17%
9803	83 / 7 / 8%	18	2		20 / 24%
9901	94 / 18 / 19%	22	2	1	25 / 27%
9902	64 / 13 / 20%	12	2		14 / 22%
9903	85 / 21 / 25%	12	1		13 / 15%
9904	95 / 23 / 24%	5			5 / 5%
0001	22 / 12 / 55%	1			1 / 5%
0002	21(+5) / 6 / 29%				
0003	20 / 5 / 25%				

Data are still being compiled for analysis. Work on data analysis and work completion will begin in January.

2. Prepare annual report briefly summarizing results.

   This document.

3. Suggest modifications to sampling protocol based upon initial results.

   Sampling is complete for the studies. Suggestions for changes in the future will be made in the final report.

4. Complete final report describing size and structure of the adult humpback chub population in Black Rocks.

   To be completed in FY 2001.

VII. Recommendations: Complete data analysis and write final report.

VIII. Project Status: Ongoing and on track. Final Report will be completed in FY-01.

IX. FY 00 Budget Status

A.	Funds Provided:	22,000
B.	Funds Expended:	22,000
C.	Difference:	0
D.	Publication Charges	0

X. Status of Data Submission: All data have been submitted to the UCRB database.

XI. Signed: C.W. McAda, December 8, 2000